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11.003

Emerging Trends: Vaccines in late development

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A number of strategies are being pursued to increase the availability of and to improve the immunogenicity, efficacy, and effectiveness of seasonal influenza vaccines. Many of these approaches have led to vaccine candidates that are in the late stages of clinical evaluation (i.e., Phase 3 trials) or that have been recently licensed. Approaches to increase the availability of influenza vaccines in the United States include the licensure of vaccines approved in other countries and the production of influenza virus antigens by cell culture (eg, canine kidney cells and Vero cells) rather than by growth in embryonated eggs. Some cell culture-derived vaccines are approved in Europe. The influenza hemagglutinin is partially purified from whole virus in currently licensed vaccines. Another approach is the production of influenza virus hemagglutinin with a baculovirus expression system. Alternative routes of immunization have also been explored, and an intradermally administered vaccine has recently been approved for use in persons 60 years of age and older in Europe. Improved vaccine immunogenicity and efficacy may be attained through the use of adjuvants or higher doses of hemagglutinin. Although several adjuvanted influenza virus vaccines are approved in other countries, none are licensed in the United States. However, oil-in-water adjuvants are in advanced stages of evaluation. A high-dose (60 mcg hemagglutinin) trivalent influenza vaccine has recently been licensed based upon its superior immunogenicity compared with the standard dose (15 mcg hemagglutinin), to be used in persons 65 years of age and older. Phase 4 studies of the high-dose vaccine are under way to determine whether the improved immunogenicity is associated with increased vaccine efficacy and effectiveness.

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Traveler's diarrhea and enteric diseases of Latin America (Invited Presentation)

12.001

Epidemiology of Traveler's Diarrhea

A. McCarthy

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This presentation will provide a review of etiologies and risk factors for diarrhea in those visiting Latin America and will provide some comparison with travelers to other destinations.

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12.002

Traveler's Diarrhea: Prevention and Treatment

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Different options for the prevention of travelers' diarrhea (TD) exist. Risk reduction is possible by implementing the Hazard Analysis Critical Control Point System or by improvement of the local infrastructure. To abandon travel plans or to abstain from potentially contaminated food and beverages is not attractive. Both a cholera and a candidate LT-ETEC transcutaneous patch vaccine have been shown to prevent TD by LT-ETEC strains, possibly by other pathogens. Among drugs suggested for chemoprophylaxis, probiotics showed at best a low protective efficacy rate; bismuth subsalicylate was modestly effective. Many older antibacterial agents are obsolete because of antimicrobial resistance by prevalent enteric bacterial pathogens. The fear of systemic reactions has limited the prescription of fluoroquinolones. Poorly absorbed antibiotics, mainly rifaximin, are more attractive for compliant travelers.

As no current prophylactic measure is satisfactory, (self)-therapy of TD remains an important option (travel kit!). Only few still recommend to wait for spontaneous cure; rapid relief is often important as incapacitation and the necessity to change travel plans have a great impact. Probiotics and charcoal have been demonstrated to offer no clinically relevant benefit. Oral rehydration solutions have no effect on the duration or amount of diarrhea, but they are essential in paediatric patients and senior travelers. Antimotility agents offer fast relief, but they are contraindicated in dysentery, also they are often followed by a period of constipation.

Antimicrobial agents, mainly quinolones and particularly in SE-Asia also azithromycin, have been used in this decade, although there is only limited recent data on the frequency of resistance from analysis of TD stool samples on all continents. The non-absorbed rifamycin-derivative rifaximin — with a broad antimicrobial spectrum and a tolerance profile similar to placebo — has been demonstrated in patients with TD to be as effective as ciprofloxacine, but this only in non-invasive cases of TD.

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12.003

Helminths of Latin America

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This session will focus on intestinal helminths. *Ascaris lumbricoides* is among the most prevalent of parasitic infections in humans. Most patients are asymptomatic or experience mild abdominal pain. Children have the highest intensity of infections and generally present with more severe clinical manifestations. The most common clinical syndromes of ascariasis are pneumonitis, intestinal, biliary and pancreatic obstruction. Ascariasis adversely affects growth, development, and nutritional status of children. Another helminth, Hookworm, is particularly troubling for children and women of reproductive age who are vulnerable